Liebherr Special Machines

for the Quarrying Industry
Liebherr has decades of experience in the development and production of class-leading machines for the quarry industry, including crawler and mining excavators, wheel loaders, crawler dozers and dump trucks. With innovative design and major components all produced by Liebherr, all machines can be deployed with great efficiency and performance in the most challenging and difficult environments in the quarrying world. Quarry machines from Liebherr perform all tasks perfectly, and every component has been designed for purpose. They feed breakers, sifting systems and trucks and transport the surface mine material. Liebherr machines work with immense power, and advanced technology reduces down fuel consumption – the perfect machines for economical use in the quarrying industry.

Large Hydraulic Excavator

Wheel Loaders

Crawler Dozers

Articulated Dump Trucks
Large Hydraulic Excavators
Performance
Liebherr’s large hydraulic excavators follow our principle of maximising machine performance by improving the efficiency of all of the individual parts. Each machine is designed for optimum serviceability and minimum downtimes. An ultra-modern engine management system maintains perfect performance, under the toughest of working conditions.

Economy
For Liebherr, protection of the environment is one of our guiding principles and the most important challenge for the present and future. Environmentally-configured power regulation of the hydraulic system and engine performance optimises the fuel efficiency of the machine to match the application. The automatic idling system reduces engine speed when the machine is stationary, and if less power is required, “eco mode” can be selected on the control panel to reduce the engine load, further improving the fuel efficiency and reducing CO₂ emissions.

Reliability
As an original equipment manufacturer, Liebherr has a leading healthy reputation in the development and production of high quality major components. All large hydraulic excavators from Liebherr feature robust and reliable components that have been optimised for the unique conditions of mining and are designed and manufactured by Liebherr to ensure reliability, high performance and longevity. Liebherr excavator customers can expect lasting performance throughout the whole service life of the machine.

Comfort
Liebherr large hydraulic excavators provide the driver with ideal conditions for fatigue-free and effective working. All of the excavators upwards feature large and spacious cabs that are conveniently equipped and comply with the latest ergonomic conventions. This maintains the driver’s concentration and safety over many hours. Cab windows with impact-resistant reinforced glass enable safe working and an optimal view over the working space and surrounding area. For easy of access during maintenance, Liebherr large hydraulic excavators feature safe and comfortable catwalks as well as an innovative layout of the components and service points on the uppercarriage.

Maintainability
The Liebherr excavators offer perfect safety for the operator and maintenance team. As it is serviced from just one side, the machine offers trouble-free access to the main service points for fast and safe maintenance in the field. The cab has been designed with further reinforcement for the safety of the driver.
Overview of Large Hydraulic Excavators With Backhoe Attachment

Stick and Bucket Cylinders
- With increased diameter in connection with adapted kinematics
- Higher breakout and digging forces

Stick With Internal Protection
- For a longer service life
- Protection from bulky material in the bucket

Cab on Hydraulic Mountings
- For optimal vibration insulation

Standard HD Bucket
- For increased service life
- Others types available
Standard Reinforced Glass Window
- At front and in roof

Standard Automatic air Conditioning
- With 13 diffusers

Standard Counterweight
- For greater stability and performance

Angled Track Pads
- For better maneuverability on difficult terrain
Overview of Large Hydraulic Excavators With Face Shovel Attachment

**Built for Mining**
- Liebherr tooth system
- Liebherr customized wear package
- Automatic central greasing system for all lubrication points
- Automatic closing of the bucket
- Ram guard for the lift cylinder (optional)
- Cover protection for front swing gear (optional)

**Sturdy Structure**
- Heavy duty undercarriage
- Additional full length chain guide (optional)
- "Heavy duty" fatigue-resistant undercarriage
- Rock protection for track wheels (optional)
Efficient Work
- Electronic control
- Rear and side view cameras
- Semi-automatic swing brake
- Operator Comfort Kit (optional)
- Various optional protective equipment (optional)

Liebherr Vertical Integration
- Diesel engine USA/EPA Tier 2
- Hydraulic pumps and motors
- Splitter box
- Electronic and control technology
- Hydraulic cylinders
- Swivel bearing
- Swing and travel drives

First Class Service
- Single side service access
- Wide catwalk and railings
- Hydraulically operated 45° access ladder (optional)
- Quick-release coupling for filling from ground level (optional)
- Fuel filling system with Multifo Hydrau-Flo (optional)
Examples of Use
## Technical Data

<table>
<thead>
<tr>
<th>Model Type</th>
<th>Operating weight BH</th>
<th>Bucket capacity*</th>
<th>Operating weight FS</th>
<th>Shovel capacity*</th>
<th>Engine power</th>
<th>Emission standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 950 SME Litronic</td>
<td>approx. 45 t</td>
<td>to 3.0 m³</td>
<td>-</td>
<td>-</td>
<td>220 kW / 299 HP</td>
<td>Stage IV / Tier 4f</td>
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<tr>
<td>R 956 Litronic</td>
<td>approx. 54 t</td>
<td>to 3.3 m³</td>
<td>approx. 57 t</td>
<td>to 3.1 m³</td>
<td>240 kW / 326 HP</td>
<td>Stage IV / Tier 4f</td>
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<tr>
<td>R 960 SME Litronic</td>
<td>approx. 60 t</td>
<td>to 3.7 m³</td>
<td>approx. 62 t</td>
<td>to 3.5 m³</td>
<td>250 kW / 340 HP</td>
<td>Stage IV / Tier 4f</td>
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<tr>
<td>R 966 Litronic</td>
<td>67 to 70 t</td>
<td>to 4.5 m³</td>
<td>approx. 69 t</td>
<td>to 4.0 m³</td>
<td>320 kW / 435 HP</td>
<td>Stage III/B / Tier 4i</td>
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<tr>
<td>R 970 SME Litronic</td>
<td>78 t</td>
<td>to 5.0 m³</td>
<td>approx. 78 t</td>
<td>to 4.5 m³</td>
<td>330 kW / 449 HP</td>
<td>Stage III/B / Tier 4i</td>
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<tr>
<td>R 976 Litronic</td>
<td>86 to 91 t</td>
<td>to 6.6 m³</td>
<td>approx. 92 t</td>
<td>to 5.1 m³</td>
<td>400 kW / 544 HP</td>
<td>Stage III/B / Tier 4i</td>
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<tr>
<td>R 980 SME Litronic</td>
<td>96 t</td>
<td>to 6.2 m³</td>
<td>approx. 100 t</td>
<td>to 6.0 m³</td>
<td>420 kW / 571 HP</td>
<td>Stage III/B / Tier 4i</td>
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<tr>
<td>R 9100</td>
<td>108.5 t</td>
<td>7.0 m³</td>
<td>112.5 t</td>
<td>7.0 m³</td>
<td>565 kW / 757 HP</td>
<td>Stage II / Tier 2</td>
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<tr>
<td>R 9150</td>
<td>128 t</td>
<td>8.3 m³</td>
<td>130 t</td>
<td>8.3 m³</td>
<td>565 kW / 757 HP</td>
<td>Stage II / Tier 2</td>
</tr>
</tbody>
</table>

* HD backhoe and face shovel bucket at 1.8t/m³
Wheel Loaders
Performance
The powerful Liebherr L 550 XPower® – L 586 XPower® wheel loaders excel with their high handling capacity in quarrying operations. XPower® offers the greatest level of efficiency and maximum output in all areas, regardless of short and long distances or flat ground and even inclines. This increases productivity in all work cycles and improves profit for the customer.

Economy
The Liebherr XPower® driveline with Liebherr Power Efficiency (LPE) achieves a reduction in fuel consumption of up to 30%. In addition there is minimal tyre wear and hardly any brake wear. At maximum handling capacity and efficiency, this reduces operating costs significantly, further increasing profitability.

Reliability
Liebherr wheel loaders provide maximum performance even under the toughest and most challenging conditions in surface mines. The components of the Liebherr XPower® driveline are extremely rugged and low-wear. XPower® ensures a long machine life and reliability in use.

Comfort
The modern ergonomic cab design provides the operator with maximum comfort enabling him to concentrate on accurate operation without fatigue, which once again means more safety and productivity. The Liebherr control lever, which is built into the operator’s seat as standard, allows precise and sensitive control of the machine. The generous glass surfaces and the design of the engine hood which has been optimised for viewing provide excellent all-round visibility. This ensures maximum safety for people, the machine and the load.

Maintainability
The most important points for daily maintenance can be seen at a glance in the access area of Liebherr wheel loaders. Quick and safe control saves time and money.
Wheel Loaders L 550 XPower® – L 586 XPower® Overview

**Maximum Operator Comfort for Greater Productivity**
- Automatic central lubrication system (L 550 – L 580 optional/L 586 as standard)
- Premium display (Touchscreen)
- Joystick steering or 2-in-1 steering (optional)
- 3 way continuously adjustable steering column
- Ride control
- Steering stabilisation

**Ruggedness and Quality for Durable Machines**
- Tilt cylinder protection (optional)
- Special buckets in HD or rock version (optional)
- Lamp carrier in steel design (optional)
- Guard for headlights (optional)
- Fuel tank steel version
- Special tyres for quarrying industry (optional)
- Tyre protection chains (optional)

**Highest Level of Performance**
- Powerful and efficient Liebherr XPower® driveline
- Automatic self-locking differentials in both axles
Productive and Safe Working
• Soundproof ROPS / FOPS cab
• Safety roof over cab (optional)
• Additional working lights, rear (optional)
• Safe, non-slip ladder access to cabin
• Anti-slip step with door locking
• Access assistance to facilitate cleaning windscreen
• Folding windscreen guard for increased safety and easy access for cleaning (optional)

Short Service Times for Greater Productivity
• Important maintenance points visible in access area
• Radiator easy to maintain
• Reversible fan drive (optional)
• Air pre-cleaner TOP AIR (optional)

Ruggedness and Quality for Durable Machines
• Crash protection, rear (optional)
• Widening for fender and rear mudguard (optional)

Productive and Safe Working
• Anti-slip steps and sturdy handrails
• Rear space monitoring camera via Liebherr display
• Headlights halogen (double design on engine hood)
### Technical Data

<table>
<thead>
<tr>
<th>Model</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>L 550 XPower®</strong></td>
<td></td>
</tr>
<tr>
<td>Tipping load</td>
<td>12,000 – 12,200 kg</td>
</tr>
<tr>
<td>Bucket capacity</td>
<td>3.2 – 3.6 m³</td>
</tr>
<tr>
<td>Operating weight</td>
<td>17,700 – 17,800 kg</td>
</tr>
<tr>
<td>Engine output</td>
<td>140 kW / 191 HP</td>
</tr>
<tr>
<td>Emission standard</td>
<td>Stage IV / Tier 4f</td>
</tr>
</tbody>
</table>

| **L 556 XPower®** |                                  |
| Tipping load | 13,500 – 13,700 kg              |
| Bucket capacity | 3.6 – 4.0 m³                   |
| Operating weight | 18,400 – 18,500 kg          |
| Engine output | 165 kW / 224 HP                |
| Emission standard | Stage IV / Tier 4f          |

| **L 566 XPower®** |                                  |
| Tipping load | 15,650 – 15,900 kg              |
| Bucket capacity | 4.2 – 4.7 m³                   |
| Operating weight | 23,900 – 24,000 kg          |
| Engine output | 200 kW / 272 HP                |
| Emission standard | Stage IV / Tier 4f          |

| **L 576 XPower®** |                                  |
| Tipping load | 17,400 – 17,600 kg              |
| Bucket capacity | 4.7 – 5.2 m³                   |
| Operating weight | 25,700 – 25,800 kg          |
| Engine output | 215 kW / 292 HP                |
| Emission standard | Stage IV / Tier 4f          |

| **L 580 XPower®** |                                  |
| Tipping load | 18,700 – 19,500 kg              |
| Bucket capacity | 5.2 – 5.7 m³                   |
| Operating weight | 27,650 – 28,800 kg          |
| Engine output | 230 kW / 313 HP                |
| Emission standard | Stage IV / Tier 4f          |

| **L 586 XPower®** |                                  |
| Tipping load | 21,250 – 22,500 kg              |
| Bucket capacity | 5.5 – 6.5 m³                   |
| Operating weight | 32,600 – 33,700 kg          |
| Engine output | 260 kW / 354 HP                |
| Emission standard | Stage IV / Tier 4f          |
Examples of Use
Crawler Dozers
Power and innovative technology: These are the trademarks of the Liebherr crawler tractors. Whether in tough ripping operations or for pushing heavy material, the PR 756 and PR 764 impress in every scenario by outstanding performance and economy.

Performance
To mechanically dig and break out hard rock, high penetration and pushing forces are required. The Liebherr crawler tractors PR 756 and PR 764 offer the ideal performance capacities with their 40 and 50 tonnes operating weights in conjunction with the innovative hydrostatic drive concept. Transmission of the engine power via both tracks is constant through a positive connection without slip, which means that the material is worked loose evenly and efficiently pushed away.

Economy
The latest generation Liebherr diesel engines combine high performance with frugal operation. Thanks to the consistently low engine speed, fuel is saved and a high service life of the components is achieved. Additional clear economical advantages speak in favour of Liebherr: As with all Liebherr equipment, the PR 756 and PR 764 models also benefit from being user-friendly. This reduces maintenance costs and downtime.

Reliability
Tough and sturdy: Liebherr crawler tractors are designed for long operational life time with careful attention to construction and material quality. All parts that are subject to particularly heavy loads are made designed from the strongest materials available, whilst sensitive areas are optimally protected. All of these factors make Liebherr crawler tractors reliable machines with the highest level of availability.

Comfort
Liebherr crawler tractors offer operators a generously proportioned workspace, designed with the latest ergonomic aspects in mind. The spacious and comfortable cabin enables an optimal overview of the working area and the work equipment. With the intuitive single joystick control, the machine can be controlled accurately and safely at all times.

Maintainability
Thanks to their minimal maintenance requirements, Liebherr crawler tractors make a reliable contribution to your economic success. A dense service network means short distances, efficient systems and fast response times for the user.
Overview of Crawler Dozers

**Cab With Integrated ROPS/FOPS protection**
- Best all around view for the operator
- Higher safety and productivity

**Separate Hydraulic Oil Cooler**
- Reliable cooling performance even in the hottest ambient temperatures
- Reduced fuel consumption due to demand-controlled fan

**HD-Ripper**
- Excellent ripping performance in hard underground conditions
- Robust design for longevity

**Bogie Suspension (optional)**
- Smoother operation
- Optimal traction
Different Types of Blades With HD-Cutting Edge
• High flexibility for all kind of material
• High productivity

HD-Tilt Cylinder Cover and Wear-Plates on Push Arm and Blade (all optional)
• Best possible protection against large rocks
• Extended lifetime of wear-exposed components

LED-Lighting (optional)
• Guarantees best illumination of the working area
• Better working performance even in the dark/bad light conditions

Hydrostatically Driven Cooling Fan
• Fast engine warm-up and reliable cooling in each situation
• Laminar air flow facilitates a long radiator-life

HD-Track Pads
• Highly wear-resistant in hard applications
• Longer uptime
Examples of Use and Technical Data

<table>
<thead>
<tr>
<th></th>
<th>PR 756 Litronic</th>
<th>PR 764 Litronic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating weight*</td>
<td>38,300 kg</td>
<td>50,400 kg</td>
</tr>
<tr>
<td>Blade capacity</td>
<td>8.9 m³</td>
<td>13.6 m³</td>
</tr>
<tr>
<td>semi U-blade</td>
<td></td>
<td>17.0 m³</td>
</tr>
<tr>
<td>Blade capacity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U-blade</td>
<td>17.0 m³</td>
<td>695 mm</td>
</tr>
<tr>
<td>Ground clearance</td>
<td>635 mm</td>
<td>1,300 mm</td>
</tr>
<tr>
<td>Max. ripping depth</td>
<td>1,203 mm</td>
<td>166.9 kN</td>
</tr>
<tr>
<td>of ripper</td>
<td></td>
<td>291.5 kN</td>
</tr>
<tr>
<td>Max. penetration</td>
<td>123.9 kN</td>
<td></td>
</tr>
<tr>
<td>force of ripper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. pryout force</td>
<td>208.8 kN</td>
<td></td>
</tr>
<tr>
<td>of ripper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Track shoe width</td>
<td>560 mm - 711 mm</td>
<td>610 mm - 760 mm</td>
</tr>
<tr>
<td>Engine output</td>
<td>250 kW / 340 HP</td>
<td>310 kW / 422 HP</td>
</tr>
<tr>
<td>Emission standard</td>
<td>Stage IV / Tier 4f</td>
<td>Stage IIIA / Tier 3</td>
</tr>
</tbody>
</table>

* Semi U-blade, 560 mm track shoes, single-shank ripper

* Semi U-blade, 610 mm track shoes, single-shank ripper
Articulated Dump Trucks
**Performance**
The TA 230 Litronic is designed for maximum work output in the harshest of environments. The large dump body supported by the sturdy drive train is a guarantee for efficient quarrying. Even in tough stone breaking operations, the articulated dump truck impresses by very good driving properties and, thanks to the innovative retarder performance, is always safely in motion.

**Economy**
With a maximum payload capacity of 30,000 kg, the TA 230 Litronic can transport more weight with the greatest efficiency. Fast turnaround times are achieved by the intelligent drive concept, and the simple transportability increases the flexibility of the machine, thereby improving capacity utilisation.

**Reliability**
Liebherr offers its customers pioneering solutions for maximum reliability and equipment availability. Installed in the TA 230 Litronic are tried and tested Liebherr components, such as diesel engine, hydraulic cylinders, rotating assembly and the Liebherr’s own electronics. This equips the machine for tough quarrying operations and provides assurance of absolute operational safety.

**Comfort**
The modern cab layout offers the driver all of the conveniences for efficient and productive work. With plenty of space, very good visibility and optimum seating comfort, the cab impresses in terms of ergonomics and functionality.

**Service friendliness**
Electronically tilting driver cab and engine cover enable convenient and safe access to all service points and simplify the necessary maintenance measures. Minimum time requirement for daily checks, good access and long service intervals reduce downtime and improve the productivity of the machine. The time-tested Liebherr range of services and service personnel trained at the actual production plant ensures you get the best possible support service for your operation.
Overview of Articulated Dump Trucks

Fatigue-Free and Safe Working
- Ergonomic cockpit in spacious ROPS/FOPS cab
- Large, one-piece windscreen for best visibility
- Rear window protection grille
- Telescopic and horizontally adjustable steering column
- Operator’s seat height-adjustable and adjustable to the operator’s weight
- Electrically adjustable and heated exterior rear-view mirrors
- On-board computer with multifunctional display

Simple, Comfortable and Quick Maintenance
- Electrically tilting operator’s cab and engine cover
- Bearings easily accessible

Powerful, Intelligent Technology
- Powerful Liebherr 6-cylinder diesel engine
- Automatic power shift transmission with eight forward and four reverse gears
- Excellent acceleration and deceleration
- Maximum traction even on demanding inclines
- Agility and manoeuvrability, even in reserve, for speeds of up to 16 km/h
- Good off-road features due to adequate axle compensation and ground clearance
Highest Efficiency at Maximum Performance
- Large dump body volume (19 m³) and load capacity (30 t)
- Vehicle width below 3.00 m
- Powerful engine for fast transport times and high transport capacity
- Superb fuel efficiency
- Dump body heating for excellent emptying properties

Trusted Liebherr Quality
- Liebherr Hydraulic oils for all temperature ranges
- Liebherr components from own production, such as hydraulic cylinders, rotating assembly and onboard electronics

Maximum Driving and Working Comfort
- Hydro-pneumatic front axle suspension for fatigue-minimised work
- Heavy duty axles with self-locking differentials
- Wet, oil-cooled, maintenance-free multi-disc brakes
- Rear area monitoring with camera
Examples of Use and Technical Data

**TA 230 Litronic**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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<tbody>
<tr>
<td>Empty vehicle weight (EVW)</td>
<td>approx. 24.4 t</td>
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<tr>
<td>Payload</td>
<td>30.0 t</td>
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<tr>
<td>Loading volume</td>
<td>19.0 m³</td>
</tr>
<tr>
<td>Engine output</td>
<td>270 kW / 367 HP</td>
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<tr>
<td>Emission standard</td>
<td>Stage III B / Tier 4i</td>
</tr>
</tbody>
</table>
Maintainability
High Service Quality

Efficient and Easy Maintenance
During the design of Liebherr machines for the quarrying industry, the entire product life cycle is considered. This leads to intelligent location of the component installation positions, which enables outstanding service-friendliness. As a result, time and money are saved.

Safe and Unimpeded Service Access
The maintenance points feature safe, simple, fast and clean access. Furthermore, they have non-slip steps and sturdy handrails for the highest level of safety.

Short and Effectively Scheduled Service Times for Greater Productivity
The outstanding service accessibility of Liebherr machines enables quick removal and installation of Liebherr original parts. Effective scheduling and execution of service work is supported by intelligent software such as LiDAT and Liebherr-P@rts24.

Strong Service Partner

Reliable Partnership with High Performing Service
With every Liebherr machine, the customer chooses a durable, first class product along with a healthy, long-term partnership. For optimum service and fast spare parts supply there is a service network covering the world in combination with an ultramodern central warehouse. This guarantees short distances and fast support when service is needed. Also around the clock if necessary.

Competent Liebherr Service Offers Highest Level of Reliability
Comprehensive expertise guarantees first class execution of all service and maintenance measures. This makes a decisive contribution to the availability and profitability of the machine. Staff at Liebherr service partners receive regular further training. They have in-depth knowledge for fast and reliable servicing, and they can draw on the expertise of the manufacturing plants at any time.

Cost Effective Thanks to Liebherr Service Quality
- Liebherr original parts and lubricants ensure that Liebherr machines remain operationally effective for years on end.
- With the Reman programme, Liebherr offers economical solutions for machines of any age.

Service Agreements for Individual Comfort and Safety
- Professional advice from Liebherr service partners ensures the right choice of service agreement
- Individual service agreements tailored to the desired scope and duration make efficient servicing possible
- Service measures carried out professionally ensure optimum machine availability.

Perfect Service for Optimum Machine Availability
- Fast and effective support from competent service partners
- Spare parts service with 24 hour availability
Wide Product Range
The Liebherr Group is one of the largest construction equipment manufacturers in the world. Liebherr’s high-value products and services enjoy a high reputation in many other fields. The wide range includes domestic appliances, aerospace and transportation systems, machine tools and maritime cranes.

Exceptional Customer Benefit
Every product line provides a complete range of models in many different versions. With both their technical excellence and acknowledged quality, Liebherr products offer a maximum of customer benefits in practical application.

State-of-the-art Technology
To provide consistent, top quality products, Liebherr attaches great importance to each product area, its components and core technologies. Important modules and components are developed and manufactured in-house, for instance the entire drive and control technology for construction equipment.

Worldwide and Independent
Hans Liebherr founded the Liebherr family company in 1949. Since that time, the enterprise has steadily grown to a group of more than 130 companies with over 41,000 employees located on all continents. The corporate headquarters of the Group is Liebherr-International AG in Bulle, Switzerland. The Liebherr family is the sole owner of the company.

www.liebherr.com